ASSIGNMENT 4

Textbook Assignment: Chapter 4 - Fiber Line, Wire Rope, and Scaffolding
Chapter 5 - Leveling and Grading

4-1. What kind of fiber is best for making fiber lines?

1. Hemp
2. Sisal
3. Manila
4. Cotton

4-2. Number 1 manila rope is what color?

1. White
2. Light brown
3. Dark brown
4. Black

4-3. Which of the following types of line is known for its strength, lightweight, and flexibility?

1. Nylon
2. Hemp
3. Manila
4. Sisal

4-4. In line fabrication, opposite twisting of fibers prevents moisture from entering the line and keeps the fibers from unlaying under a load.

1. True
2. False

4-5. What type of line is composed of four strands twisted together in a right-hand direction around a core?

1. Hawser-laid
2. Shroud-laid
3. Cable-laid
4. Plain-laid

4-6. Which of the followlng factors is used to designate the size of small stuff?

1. Diameter
2. Circumference
3. Number of strands
4. Number of threads per strand

4-7. Which of the following formulas should you use to find the approximate breaking strength (BS) of manila line?

1. BS= c^2 x 900
2. BS= c^2 x 2,400
3. BS= d^2 x 900
4. BS= d^2 x 2,400

4-8. For which of the following reasons is a wide margin between the safe working load and the breaking strength of fiber line desirable?

1. To allow for the strain imposed only by jerky movements
2. To allow for the strain imposed only when the line is bent over sheaves
3. To allow for the strain imposed by jerky movements and when the line is bent over the sheaves
4. To allow for the difference in the various types of fibers used

4-9. The SWL for a new fiber line can normally be increased by what percentage?

1. 10%
2. 20%
3. 30%
4. 40%

4-10. A used fiber line in good condition has what safety factor figured in?

1. Eight
2. Six
3. Three
4. Four

4-11. Of the following cleaners, which is the only one you should use to clean a muddy fiber line?

1. Water
2. Kerosene
3. Linseed oil
4. Liquid soap

4-12. Which of the following wire rope sizes is most flexible?

1. 6 x 14
2. 6 x 19
3. 6 x 21
4. 6 x 37

4-13. The size of wire rope is designated by what characteristic?

1. Circumference
2. Diameter
3. Weight per running foot
4. Number of tires per strand

4-14. To measure the diamater of a wire rope, you should use which of the following methods?

1. Measure in one place near the middle
2. Measure in two places near the middle, 10 feet apart; then average the results
3. Measure in three places, 10 feet apart; then average the results
4. Measure in three places, 5 feet apart; then average the results

4-15. What percentage of broken wires in a wire rope renders the rope unsafe for normal use?

1. 10%
2. 8%
3. 6%
4. 4%

4-16. Rope is considered unsafe when its diameter is reduced to less than what percentage of its original size?

1. 10%
2. 25%
3. 50%
4. 75%

4-17. The bitter end of a wire rope should extend what minimum distance below a wedge socket?

1. 6 in
2. 2 in
3. 3 in
4. 4 in

4-18. What type of tackle system is an assembly of blocks in which more than one line is used?

1. Compound
2. Double whip
3. Simple
4. Triblock

4-19. In a block-and-tackle assembly, the standing end of a line is attached to which of the following components?

1. Breech
2. Becket
3. Sheave
4. Strap

4-20. Why are blocks used in a tackle assembly?

1. To change direction of pull only
2. To provide a mechanical advantage only
3. To change direction of pull and provide a mechanical advantage
4. To provide an alternate means of using line

4-21. In a block and tackle, the opening In the block through which the line passes is known by which of the following terms?

1. Swallow
2. Cheek
3. Breach
4. Frame

4-22. When selecting a block for use with fiber line, you should normally select a block of what approximate length?

1. 10 times the diameter of the line
2. 2 times the circumference of the line
3. 3 times the circumference of the line
4. 4 times the diameter of the line

4-23. In the absence of a reference table, a rule of thumb for determining the diameter of a wire rope sheave is that the sheave should have what approximate diameter?

1. 10 times the diameter of the wire
2. 20 times the diameter of the wire
3. 3 times the circumference of the wire
4. 4 times the circumference of the wire

4-24. What type of block can be installed at any point on a wire rope or fiber line without having to thread the rope or line through the block?

1. Swivel fairlead
2. Swivel shackle
3. Snatch
4. Quick latch

4-25. When a snatch block is used in a rigging system, it provides what maximum number of mechanical advantages, if any?

1. One
2. Two
3. Three
4. None

4-26. What is the simplest method of determining the mechanical advantage of any tackle?

1. Count the sheaves at the running block
2. Determine the diameter of the sheaves
3. Count the standing parts at the stationary block
4. Count the number of parts of the fall at the running block

4-27. Hooks and shackles should be inspected at what minimum interval?

1. Daily
2. Twice a week
3. Weekly
4. Monthly

4-28. When hoisting, what number of signalmen should be assigned?

1. One
2. Two
3. Three
4. Four

4-29. When necessary the EMERGENCY STOP signal should be given by which of the following individuals?

1. The signalman only
2. The crew leader only
3. The project safety officer only
4. Anyone who sees an emergency

4-30. What number of guy lines are required to operate shear legs?

1. One
2. Two
3. Three
4. Four

4-31. What advantage does a tripod have over shear legs?

1. It is more stable only
2. It requires no guy lines only
3. It has greater load capacity only
4. All of the above

4-32. Tripod legs should be spread no more than

1. one-third the length of the legs
2. one-half the length of the legs
3. two-thirds the length of the legs
4. three-quarters the length of the legs

4-33. On a swinging scaffold, what are the minimum required sizes for (a) planks and (b) guard rails?

1. (a)2 by 8ft (b) 1 by 4in
2. (a)2 by 4ft (b) 2 by 4in
3. (a)2 by 10ft (b) 2 by 8in
4. (a)2 by 8ft (b) 2 by 4in

4-34. When splicing a vertical pole, what minimum length splice plate should you use?

1. 6 ft
2. 3 ft
3. 8 ft
4. 4 ft

4-35. Prefabricated scaffolding with 2 1/2 inch outside diameter steel tubing and post spacing not more than 6 1/2 feet apart is considered to be what duty?

1. Light
2. Medium
3. Heavy
4. Extra heavy

4-36. To correct an engineer’s level that is not quite horizontal, what action(s) should you take first?

1. Rotate the azimuth tangent screw
2. Manipulate the focusing knob
3. Release the azimuth clamp
4. Slacken the reticle adjusting screws

4-37. You can bring the vertical cross hair of the dumpy level into exact alignment with the target by rotating which of the following components?

1. Leveling screws
2. Leveling head
3. Azimuth head
4. Azimuth tangent screw

4-38. What type of level was designed to eliminate the use of the tubular spirit level?

1. Wye
2. Dumpy
3. Self-leveling
4. Hand

4-39. A self-leveling level automatically gives a level line of sight when the level bubble is approximately within the center of the

1. tripod
2. level
3. bull’s-eye
4. cross hair

4-40. What type of level is used for short distance sighting and has no magnification device?

1. Hand
2. Wye
3. Automatic
4. Dumpy

4-41. When removing a level from its case, you should grip what part?

1. The telescope
2. The level bar
3. The footplate
4. The leveling plate

4-42. An engineering level should be stowed in its carrying case when not in use.

1. True
2. False

4-43. In the target reading method of surveying, who reads the rod?

1. The chairman
2. The instrumentman
3. The flagman
4. The rodman

4-44. On a Philadelphia rod, the large numerals indicating foot markings are in what color?

1. Red
2. White
3. Black
4. Yellow

4-45. When the instrumentman is unable to read the foot markings on a Philadelphia rod, he gives the command RAISE THE RED. What should the rodman do?

1. Read the rod
2. Lower the rod
3. Raise the rod
4. Wave the rod

4-46. On a Philadelphia rod, the vernier scale helps you make readings as small as what fraction of a foot?

1. 1/10
2. 1/12
3. 1/100
4. 1/1,000

4-47. When the rodman finds it difficult to hold the rod perfectly plumb, it should be waved back and forth to allow the levelman to read the lowest reading touched by the crosshair.

1. True
2. False

4-48. Differential leveling has what purpose?

1. Finding the line of sight between two points
2. Finding the horizontal difference between two points
3. Finding the vertical difference between two points
4. Finding the radius of horizontal curves

4-49. The elevation of a proposed, artificially created surface is known by what term?

1. Plan grade
2. Existing grade
3. Gradient
4. Line grade

4-50. On a plot plan, the grade elevation of a level horizontal surface is indicated in which of the following ways?

1. Solid contour lines
2. Broken contour lines
3. Evenly spaced contour lines
4. Outlining the area and writing the elevation inside

4-51. Building corners should be laid out with reference to which of the following features?

1. A control base line
2. Contour lines
3. Batter boards
4. Vertical control points

4-52. Batter boards have what function?

1. Protect stakes from being knocked over
2. Prevent cave-ins at excavation corners
3. Provide a means for reestablishing building lines when the stakes have been disturbed
4. Mark the outside dimensions of excavations

4-53. Batter boards are used for both horizontal and vertical control in maintaining specific elevations.

1. True
2. False